

AMENDMENT AND PRESENTATION OF CLAIMS

Please replace all prior claims in the present application with the following claims, in which claims 1 and 19 are canceled without prejudice or disclaimer, claims 2, 5-6, 7-10, 12, 14-18, 20, 24-25, 27-28, 30, and 32-36 are currently amended, and claims 37 and 38 are newly presented.

1. (Canceled)

2. (Currently Amended) The external processor of Claim 1 ~~+~~ 37, wherein the external processor includes a plurality of service controllers including said ~~first~~ service controller, wherein each of said plurality of service controllers implements a respective one of a plurality of services.

3. (Original) The external processor of Claim 2, wherein the plurality of service controllers includes primary and secondary service controllers for a particular service among said plurality of services, and wherein the secondary service controller provides said particular service to said programmable access device if said primary service controller fails.

4. (Original) The external processor of Claim 2, wherein said plurality of service controllers includes a second service controller in communication with said first service controller such that a network message can be serviced by both of said first service controller and said second service controller.

5. (Currently Amended) The external processor of Claim 2, wherein the external processor is coupled to a plurality of programmable access device, and wherein at least one of the plurality of service controllers performs selectively service processing for ~~less than all of a~~ portion of said plurality of programmable access devices.

6. (Currently Amended) The external processor of Claim 1 37, wherein the service controller includes means for injecting a packet into a traffic flow handled by the programmable access device.

7. (Currently Amended) The external processor of Claim 1 37, wherein the service controller supports a service policy interface through which the service controller requests policy decision from a policy server.

8. (Currently Amended) The external processor of Claim 1 37, wherein the external processor includes a policy cache that selectively caches policies obtained from ~~the~~ a policy server.

9. (Currently Amended) The external processor of Claim 1 37, and further comprising a reporting processor that provides an interface through which a reporting event received from the programmable access device is communicated to the service controller.

10. (Currently Amended) The external processor of Claim 1 37, and further comprising a signaling controller that transmits signals to configure network hardware to provide network connections.

11. (Original) The external processor of Claim 10, wherein the signals specify a quality of service.

12. (Currently Amended) The external processor of Claim 1 37, wherein the service controller comprises session management means for causing the programmable access device controller to signal the programmable access device to end a session receiving enhanced service.

13. (Original) The external processor of Claim 12, wherein the session receiving enhanced service is a Transport Control Protocol (TCP) session, and wherein the session management means comprises means for causing the programmable access device controller to signal the programmable access device to delete the TCP session state in response to a session activity level.

14. (Currently Amended) The external processor of Claim 1 37, wherein the service controller comprises a conference call service controller.

15. (Currently Amended) The external processor of Claim 1 37, wherein the service controller comprises an commerce service controller.

16. (Currently Amended) The external processor of Claim 1 37, wherein the service controller comprises an internet protocol telephony service controller.

17. (Currently Amended) The external processor of Claim 1 37, wherein the service controller comprises a reserved bandwidth service controller.

18. (Currently Amended) The external processor of Claim ~~1~~ 37, wherein the service controller comprises a multicast service controller.

19. (Canceled)

20. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises performing each of a plurality of services in response to network messages with a respective one of a plurality of service controllers.

21. (Original) The method of Claim 20, wherein the plurality of service controllers includes primary and secondary service controllers for a particular service among said plurality of services, and wherein the method further comprises:

in response to failure of communication with said primary service controller for said particular service, performing service processing utilizing the secondary service controller.

22. (Original) The method of Claim 20, wherein performing service processing comprises performing a plurality of services in response to a single network message utilizing a plurality of service controllers.

23. (Original) The method of Claim 20, wherein the external processor is coupled to a plurality of programmable access device, and wherein the method further comprises:

with at least one of the plurality of service controllers, performing service processing for less than all of said plurality of programmable access devices.

24. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing includes injecting a packet into a traffic flow handled by the programmable access device.

25. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises requesting a policy decision from a policy server.

26. (Original) The method of Claim 25, and further comprising selectively caching, in a policy cache of the external processor, policies obtained from the policy server.

27. (Currently Amended) The method of Claim ~~19~~ 38, and further comprising:
receiving a reporting message from the programmable access device; and
performing service processing with the service controller in response to the reporting message.

28. (Currently Amended) The method of Claim ~~19~~ 38, and further comprising signaling network hardware from the external processor to provide a network connection.

29. (Original) The method of Claim 28, wherein signaling network hardware comprises specifying a quality of service for the network connection.

30. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises signaling the programmable access device to end a session receiving enhanced service.

31. (Original) The method of Claim 30, wherein the session receiving enhanced service is a Transport Control Protocol (TCP) session, and wherein signaling the programmable access device to end a session receiving enhanced service comprises signaling the programmable access device to delete the TCP session in response to a session activity level.

32. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises performing conference call service processing.

33. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises performing e-commerce service processing.

34. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises performing internet protocol telephony service processing.

35. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises performing reserved bandwidth service processing.

36. (Currently Amended) The method of Claim ~~19~~ 38, wherein performing service processing comprises performing multicast service processing.

37. (New) An external processor for a network access system having a programmable access device, comprising:

a message processor configured to parse a message for determining a type of communication service;

a service controller configured to receive the message if the type of communication service corresponds to the service controller, wherein the service controller determines a policy based on the message and generates a control signal according to the policy; and

a programmable access device (PAD) controller configured to receive the control signal for configuring a PAD to enforce the policy with respect to a network connection between a first network and a second network.

38. (New) A method of providing network access system with an external processor having a programmable access device, comprising the steps of:

receiving a network message and parsing the message to determine a type of communication service with a network processor of the external processor;

determining a policy in response to the message with a service controller of the external processor;

generating and transmitting a control signal according to the policy; and

establishing a configuration of a programmable access device (PAD) to enforce the policy using the control signal with a PAD controller of the external processor in order to connect a first network and a second network.